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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,675

04/05/2005

Harry Richard Claringburn

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EXAMINER

SINGH, DALZID E

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

09/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/500,675

Applicant(s)

CLARINGBURN, HARRY
RICHARD

Examiner

Dalzid Singh

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the add/drop node as in claim 28 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 28 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 28 recites, "add/drop node". Fig. 1 shows drop element which provides the signal to dispersion compensator unit (DCU). It is unclear how the node is able to perform add functionality. There is no circuit diagram provided to show a person of ordinary skill in the art how the node functions as add/drop node.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 15-18, 21, 22-25, 27 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al (US Pub. No. 2003/0058497).

Regarding claims 15 and 22, Park et al disclose an apparatus for performing dispersion compensation on an optical communications signal, as shown in Figs. 2 and 6, comprising:

a) means for performing coarse dispersion compensation on a signal multiplex on a communications network (32);

b) means for dropping the signal multiplex from the network to produce a dropped signal (the switching unit (20) drops the optical signal); and

c) means for applying an adjustable dispersion compensation to the dropped signal based on a measure of error rate in the signal (see Fig. 6 and paragraphs [0034-0036 and 0044-0046]).

Regarding claims 16 and 23, comprising means for splitting the dropped signal multiplex into a plurality of separate channels, wherein the adjustable dispersion

compensation means applies an adjustable compensation to the separate channels (see paragraphs [0034-0036 and 0044-0046]).

Regarding claims 17 and 24, comprising means for measuring the error rate in a respective channel to obtain a measured error rate, and means for deriving and applying a control signal to adjust the dispersion compensation means from the measured error rate (see paragraphs [0034-0036 and 0044-0046]).

Regarding claims 18 and 25, wherein the means for deriving and applying the control signal adjusts the dispersion compensation means to minimize the measured error rate (see paragraphs [0034-0036 and 0044-0046]).

Regarding claims 20 and 27, wherein the means for deriving and applying the control signal comprises means for dithering the control signal to set the dispersion compensation means such that the measured error rate is a minimum (as shown in Fig. 5 Park et al disclose feedback loop which adjusts and monitors signal level so that error rate is a minimum).

Regarding claims 21 and 28, Park et al disclose an add/drop node for an optical communications network, as shown in Fig. 2, comprising:

a) a splitter for dropping a signal multiplex from the network (the switching unit (20) drops the optical signal);

b) means for separating the signal multiplex into a plurality of channels (see Fig. 6 and paragraphs [0034-0036 and 0044-0046]);

c) means for measuring error rate in a respective channel (see paragraphs [0034-0036 and 0044-0046]); and

d) means for applying an adjustable dispersion compensation to the respective channel based on the error rate measured by the measuring means (see paragraphs [0034-0036 and 0044-0046]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (US Pub. No. 2003/0058497) in view of Nishimoto et al (US Pub. No. 2002/0089724).

Regarding claims 19 and 26, Park et al disclose optical communication system for dispersion compensation adjustment by means of error measurement. Park et al do not specifically disclose that the error measurement was is forward error corrected (FEC), and wherein the means for measuring the error rate comprises an FEC decoder for outputting a bit error rate signal to the means for deriving and applying the control signal. Nishimoto et al teach the use of error correction to generate control signal for compensating dispersion (see paragraphs [0054-0056]). Since there are various ways

of measuring signal quality and detecting error, therefore it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide control signal derived from FEC as taught by Nishimoto et al to the optical system of Park et al. One of ordinary skill in the art would have been motivated to do such in order to maximize signal quality.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ooi et al (US Patent No. 6,728,491) is cited to show polarization-mode dispersion detecting method, and a dispersion compensation controlling apparatus and a dispersion compensation controlling method.

Zhou et al (US Pub. No. 2002/0021862) is cited to show Method and apparatus for per-band compensation with gap-free band structure for high speed DWDM transmission.

Jones et al (US Pub. No. 2003/0039013) is cited to show dynamic dispersion compensation in high-speed optical transmission systems.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 12, 2007

DALZID SINGH
PRIMARY EXAMINER

Dalzid Singh